Test Methods: Basis Weight, Density and Water Retention

[0225] Measurements are conducted at 23° C.±2° C. and 50%±2% relative humidity. All samples are conditioned at this environment for 2 hours prior to testing. Harvest the substrate/component/material of interest from an absorbent article. From the longitudinal and lateral centerline of the sample, accurately cut a specimen of approximately 10 cm^2 to the nearest 0.01 cm^2. Measure the mass of the specimen and record as the dry mass to the nearest 0.0001 g. Basis weight is calculated from the measured mass (g) and area (m^2) and recorded to the nearest 0.1 g/m^2 (gsm).

[0226] Caliper is measured using a digital caliper such as an Ono Sokki linear gauge sensor GS-503 capable of measuring thickness to ±0.001 mm. A 25.0 mm±0.1 mm diameter circular foot which applies a pressure of 0.69 kPa±0.01 kPa is used. The caliper anvil is larger than the foot. The instrument is calibrated per the manufactures specifications. With the foot resting on the anvil, zero the digital caliper. Lift the caliper foot and center the specimen under the foot. Gently lower the foot onto the surface of the specimen at a rate of approximately 2 mm/s. Read and record to the nearest 0.01 mm.

[0227] Calculate the volume of the specimen using the measured area (cm^2) and caliper (cm), and record to the nearest 0.01 cm^3. Density is calculated by dividing the measured mass (g) by the measured volume (cm^3). Record to the nearest 0.01 g/cm^3.

[0228] Take the specimen and submerge it in distilled water for 5.0±0.1 min. Remove the specimen from the water, carefully suspend the specimen vertically from its corner for 10±0.1 min to allow to drain. Measure the mass of the specimen and record as the wet mass to the nearest 0.0001 g. Calculate the Water Retention as the difference between the wet mass and dry mass divided by the dry mass (g). Record to the nearest 0.01 g/g.

[0229] In like fashion, repeat the measurements for a total of 10 replicate specimens, and report results as the arithmetic average for Basis Weight (g/m^2), Density (g/cm^3) and Water Retention (g/g).

Test Method: The In-Bag Stack Height of a Package of Articles is Determined as Follows:

Equipment

[0230] A thickness tester with a flat, rigid horizontal sliding plate is used. The thickness tester is configured so that the horizontal sliding plate moves freely in a vertical direction with the horizontal sliding plate always maintained in a horizontal orientation directly above a flat, rigid horizontal base plate. The thickness tester includes a suitable device for measuring the gap between the horizontal sliding plate and the horizontal base plate to within ±0.5 mm. The horizontal sliding plate and the horizontal base plate are larger than the surface of the absorbent article package that contacts each plate, i.e. each plate extends past the contact surface of the absorbent article package in all directions. The horizontal sliding plate exerts a downward force of 850±1 gram-force (8.34 N) on the absorbent article package, which may be achieved by placing a suitable weight on the center of the non-package-contacting top surface of the horizontal sliding plate so that the total mass of the sliding plate plus added weight is 850±1 grams.

[0231] Absorbent article packages are equilibrated at 23±2 ° C. and 50±5% relative humidity prior to measurement.

[0232] The horizontal sliding plate is raised and an absorbent article package is placed centrally under the horizontal sliding plate in such a way that the absorbent articles within the package are in a horizontal orientation (see FIG. **16**). Any handle or other packaging feature on the surfaces of the package that would contact either of the plates is folded flat against the surface of the package so as to minimize their impact on the measurement. The horizontal sliding plate is lowered slowly until it contacts the top surface of the package and then released. The gap between the horizontal plates is measured to within ±0.5 mm ten seconds after releasing the horizontal sliding plate. Five identical packages (same size packages and same absorbent articles counts) are measured and the arithmetic mean is reported as the package width. The "In-Bag Stack Height"=(package width/absorbent article count per stack)×10 is calculated and reported to within ±0.5 mm. This application is a continuation of Application Ser. No. 16/136,540, filed on Sep. 20, 2018, which claims the benefit of U.S. Provisional Application No. 62/561,382, filed on Sep. 21, 2017, the entireties of which are all incorporated by reference herein.

[0233] The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm."

[0234] Every document cited herein, including any cross referenced or related patent or application and any patent application or patent to which this application claims priority or benefit thereof, is hereby incorporated herein by reference in its entirety unless expressly excluded or otherwise limited. The citation of any document is not an admission that it is prior art with respect to any invention disclosed or claimed herein or that it alone, or in any combination with any other reference or references, teaches, suggests or discloses any such invention. Further, to the extent that any meaning or definition of a term in this document conflicts with any meaning or definition of the same term in a document incorporated by reference, the meaning or definition assigned to that term in this document shall govern.

[0235] While particular embodiments of the present disclosure have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the present disclosure. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

1. A package of absorbent articles comprising:

a. a package comprising a polymeric bag;

b. a plurality of absorbent articles disposed within the polymeric bag, wherein the absorbent articles are devoid of lotion, fragrance or perfume, and chlorine;

c. wherein each of the absorbent articles comprises bleached cellulosic fibers and an absorbent core comprising:

i. a core wrap comprising a first nonwoven layer and an opposing second nonwoven layer;

ii. absorbent material disposed between the first nonwoven layer and the second nonwoven layer; and